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Ronchi Test Applied to Measurement of Surface Roughness

The Ronchi test, which is normally used to measure aberrations in optical elements, has been applied to measure microscopic variations in surface roughness or flatness of metalized test specimens. In this application, light is projected through a diffraction grating onto the test specimen, and the light reflected from the specimen is viewed or photographed through the grating. The degree of flatness is determined by progressively decreasing the grating size until a distorted image is obtained. Surface irregularities appear as contour patterns which can be compared to those obtained in a similar manner from a standard optically flat surface.

Note:

Inquiries concerning this invention may be directed to: Technology Utilization Officer
Marshall Space Flight Center
Huntsville, Alabama 35812
Reference: B67-10636

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

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